MICHIGAN DEPARTMENT OF CIVIL SERVICE
JOB SPECIFICATION

GEOLOGIST

JOB DESCRIPTION

Employees in this job complete or oversee a variety of professional assignments to protect, develop and maintain the state's natural resources for environmental and economic purposes.

There are four classifications in this job.

Position Code Title – Geologist-E

Geologist 9
This is the entry level. As a trainee, the employee carries out a range of professional geologist assignments while learning the methods of the work.

Geologist 10
This is the intermediate level. The employee performs an expanding range of professional geologist assignments in a developing capacity.

Geologist P11
This is the experienced level. The employee performs a full range of professional geologist assignments in a full functioning capacity. Considerable independent judgement is used to make decisions in carrying out assignments that have significant impact on services or programs. Guidelines may be available, but require adaptation or interpretation to determine appropriate courses of action.

Position Code Title – Geologist-A

Geologist 12
This is the advanced level. The employee may function as a lead worker or senior worker. At this grade level employees are responsible for overseeing the work assignments of other professionals or have regular assignments which have been recognized by Civil Service as having significantly greater complexity than those assigned at the experienced level in the series.

NOTE: Employees generally progress through this series to the experienced-level based on satisfactory performance and possession of the required experience.

JOB DUTIES

NOTE: The job duties listed are typical examples of the work performed by positions in this job classification. Not all duties assigned to every

position are included, nor is it expected that all positions will be assigned every duty.

Investigates ground water and soil contamination pollution problems, and determines environmental suitability of surface and underground waste disposal sites.

Inspects petroleum drilling operations and producing facilities to assure conformance with legal requirements; develops and issues instructions for the plugging of oil and gas wells, including inspection of same; oversees cleanup processes.

Reviews applications for permits to drill and produce oil and gas wells; develops, negotiates and finalizes issuance or denial of permits in accordance with applicable state and federal laws.

Records geological data on rock formations encountered in the drilling of wells, and collects and compiles data on oil and brine production.

Responds to hazardous waste spills and other releases of contaminants, including leaking underground storage tanks (LUST); assesses on-site problem and coordinates clean up activities.

Collects water, soil and air samples from in and around contaminated sites; reviews hydrogeological data and approves submitted corrective action plans and subsequent detailed work plans for the area; tracks the status of installed monitor wells.

Oversees and evaluates aquifer testing to determine a site's potential for resource development or restoration.

Collects, analyzes and catalogs geologic samples and studies the location, character, quantity and economics of geologic deposits; interprets results and compiles formal reports.

Performs groundwater and lake level surveys; interprets results and prepares formal reports.

Carries out special geologic studies, such as studies of sources of aggregates and groundwater contamination.

Compiles statistical data on the production and value of the state's geologic resources.

Provides technical expertise to industry, college groups, and state and federal agencies, on problems in the location, production and processing of minerals, water or petroleum.

Develops multidimensional cross-sections and isopach and contour maps to interpret subsurface conditions for a variety of site evaluations.

Identifies and specifies uses and values of specimens submitted by industry and the public.

May participate in various geophysical surveys.

Participates in escalated enforcement activities through assisting in the development of evidentiary cases against violators who fail to comply with applicable state and federal laws.

Investigates roadway and structure problems involving aggregates, soils and related materials; collects and analyzes data and prepares appropriate reports.

Examines and analyzes road and structure samples for deterioration of aggregates and related materials; performs laboratory tests and analyses to determine physical and chemical characteristics.

Prepares geologic and hydrogeologic portions of environmental impact statements.

Conducts hydrogeologic investigations to determine soil conditions, depth to water table, direction of groundwater flow, and chemical characteristics of the soil and groundwater.

Implements and documents personal computer-based data collection, processing and reporting systems.

Maintains records and prepares reports and correspondence related to the work.

May perform related essential functions appropriate to the class and other non-essential functions as required.

Additional Job Duties

Geologist 12 (Lead Worker)
Oversees the work of professional staff by making and reviewing work assignments, establishing priorities, coordinating activities, and resolving related work problems.

Geologist 12 (Senior Worker)
Performs on regular basis professional geologist assignments, which are recognized by Civil Service as more complex than those assigned at the experienced level.

JOB QUALIFICATIONS

Knowledge, Skills, and Abilities

NOTE: Some knowledge in the area listed is required at the entry level, developing knowledge is necessary at the intermediate level, consider-

able knowledge is required at the experienced level, and thorough knowledge is required at the advanced level.

Knowledge of the science of geology, including physical geology, mineralogy, stratigraphy, glacial geology, economic geology, hydrogeology, geomorphology, paleontology, petroleum geology, structural geology, petrology, geochemistry, geophysics and geologic mapping.

Knowledge of the distribution of geologic systems in the state.

Knowledge of the theory and principles of earth resistivity and reflection seismology.

Knowledge of the methods used in the collection, analysis and reporting of geologic field data.

Knowledge of the pedologic soils classification system.

Knowledge of the value and commercial uses of resources.

Knowledge of the state laws, rules and regulations pertaining to geology and related petroleum and mineral industry.

Knowledge of environmental regulations pertaining to the design, construction, and monitoring of waste disposal facilities.

Knowledge of the various processes used in well drilling and well construction for water, oil and gas, exploration drilling and various types of monitor wells.

Ability to carry out chemical and physical analyses of rock and mineral samples.

Ability to identify and classify rocks, minerals, fluids, soils and geologic formations.

Ability to prepare geologic maps, cross-sections and fence diagrams.

Ability to prepare groundwater contour maps and flow nets.

Ability to maintain records, and prepare reports and correspondence related to the work.

Ability to communicate effectively with others.

Ability to maintain favorable public relations.

Additional Knowledge, Skills, and Abilities

Geologist 12 (Lead Worker)
Ability to organize and coordinate the work of others.

Ability to set priorities and assign work to other professionals.

Working Conditions

Typical assignments frequently require that work be completed outdoors in a variety of weather conditions, including weather extremes.

Exposure to hazardous waste and contaminants is routine, and may require the use of protective clothing and respirators.

Physical Requirements

Long periods of walking and standing, and some climbing and carrying of equipment and supplies are commonly associated with the work.

Education

Possession of a bachelor's degree in geology or geological, petroleum or mining engineering.

Experience

Geologist 9
No specific amount or type is required.

Geologist 10
One year of professional experience in carrying out geological activities to protect, develop and maintain natural resources equivalent to a Geologist in state service.

Geologist P11
Two years of professional experience in carrying out geological activities to protect, develop and maintain natural resources equivalent to a geologist in state service, including one year equivalent to a Geologist 10.

Geologist 12
Three years of professional experience in carrying out geological activities to protect, develop and maintain natural resources, including one year of experience equivalent to Geologist P11.

Special Requirements, Licenses, and Certifications

None.

NOTE: Equivalent combinations of education and experience that provide the required knowledge, skills, and abilities will be evaluated on an individual basis.

JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION

Job Code	Job Code Description
GEOLOGIST	Geologist

Position Title	Position Code	Pay Schedule
Geologist-E	GEOLGSTE	H21-001
Geologist-A	GEOLGSTA	H21-009

ECP Group 2
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